

CUSTOMER SERVICE AND OVERALL SATISFACTION WITH ANGLING EXPERIENCES

Thomas D. Wickham
Assistant Professor, Department of Earth Sciences, 250
University Avenue,
California University of Pennsylvania, California, PA
15419

Alan R. Graefe
Associate Professor, School of Hotel, Restaurant and
Recreation Management, The Pennsylvania State
University, 201 Mateer Building, University Park, PA
16802

Robert C. Burns
Assistant Professor, Department of Recreation, Parks and
Tourism, 300 Florida Gym,
University of Florida, Gainesville, FL 32611

This study explores the relationship between individual customer service items and satisfaction with facilities, services, information, recreation experience and overall quality of fishing for a diverse group of anglers at lakes in the New England region. Recent attention to customers and their experiences and attitudes has increased the interest of both managers and researchers in issues like customer satisfaction. In an attempt to make satisfaction models more useful, Burns et al. (1999) created a customer satisfaction model with four domains (facilities, services, information, and recreation experience). This model was designed to be more easily understood by recreation researchers and managers because the items within the domains were more relevant and tangible. The domains used were also believed to be flexible in nature and adaptable to the needs of the specific recreation area under study. This study builds on previous research by continuing exploration of the factors influencing satisfaction with the recreation experience. The relationships between twelve customer service items and satisfaction with the four domains of facilities, services, information and the recreation experience were tested. The individual items were most strongly related to satisfaction within the facilities domain. Results also revealed direct relationships between these variables and overall satisfaction with the fishing experience. Satisfaction with the number of fish a person can catch and the services domain showed the most influence on overall satisfaction with the fishing experience.

Introduction

Since the 1960s, researchers have been trying to determine what represents quality in outdoor recreation and how satisfied recreation customers are with their experiences. In the recreation field, Wagar (1966) was the first to ask, "What is quality in outdoor recreation?" Service quality is an issue of perception, and because individuals have varying past experiences, satisfaction will generally deviate across different customers in different situations. Because

there is a varying level of perceived quality among visitors to recreation areas, it is desirable for management to offer a wide variety of activities and to manage for as many different experiences as possible (Wagar, 1966). By managing for a variety of experiences, we are more likely to provide the experiences that people are looking for in their recreation activities.

Consumer behaviorists have conducted similar research related to service quality and customer satisfaction. Parasuraman, Zeithaml, and Berry (1985, 1988) have played the leading role in this area of research. Probably one of the most influential pieces of service quality research came when Parasuraman et al. (1988) developed a 22-item instrument named SERVQUAL. The SERVQUAL scale was designed to measure perceived quality, which is the consumer's view of excellence or superiority of the organization in question.

In the recreation and leisure field, SERVQUAL was adapted by Mackay and Crompton (1988, 1990) to help researchers and managers better understand how people engaging in recreation activities evaluate quality of service from recreation providers. Mackay and Crompton referred to their satisfaction construct as REQUAL and used similar customer service domains in their investigation of recreation satisfaction. These customer service domains included tangibles, reliability, responsiveness, assurance and empathy.

In an attempt to make satisfaction models more tangible for researchers and managers, Burns, Graefe, Absher and Titre (1999a, 1999b) created a customer satisfaction model with four domains (facilities, services, information, and recreation experience). This customer satisfaction model was designed to be more easily understood by recreation researchers and managers because the items within the domains were more relevant and tangible. The domains used were also believed to be flexible in nature and may be adapted to meet the needs of the specific recreation area under study.

The purpose of this study is to explore the nature of the relationship of individual customer service items with overall satisfaction with facilities, services, information, recreation experience and overall quality of experience for anglers in the New England region. The customer satisfaction measures examined build on Burns et al.'s (1999) work by focusing on key managerial domains rather than general evaluative questions offering little insight into the visitor's experience and satisfaction. The study examines the internal dimensions of each of these domains, ascertains their relationship with satisfaction within the domains, and identifies the significant predictors of overall satisfaction for anglers. The results of this study will hopefully prove useful for managers in their future planning efforts.

Methodology

A multiple-method approach was used for data collection to obtain a diverse sample of anglers from the New England

region. Several U.S. Army Corps of Engineers project offices provided names of individuals, groups, and club representatives for the researchers to contact by phone. A total of eight groups out of fifteen contacted agreed to provide the names and addresses of their members for a mail-out survey. As a means of increasing the sample size for the study, a stratified random sample of users was contacted on-site at four lakes (Hopkinton-Everett Lake, East Brimfield Lake, Buffumville Lake, and West Thompson Lake). Upon the completion of a brief on-site interview, each respondent was asked if he/she was willing to provide his/her name and address for a follow-up mail-back survey.

In total, 433 addresses were collected for this survey. A modified implementation of Dillman's (1978) multiple mailing process was used (four instead of five mailings). A total of 123 usable surveys were returned from the address database for a response rate of about 33%. Surveys were also sent to two large state bass fishing organizations. By combining the surveys returned from the mail-out portion of the study and the surveys distributed to the state bass organizations, the total sample size for this study increased to 176.

A telephone survey of non-respondents was conducted as a precautionary measure in order to determine if there was a significant difference between non-respondents and respondents in the study. Thirty interviews were completed and the sample means of 13 items were compared with the results in the original mail survey. This comparison

between respondents and non-respondents showed little significant difference between the two groups.

Measurement

Customer service was measured using a list of 12 items patterned after scales developed by Parasuraman et al. (1985), Mackay and Crompton (1990) and Burns et al. (1999a). The domains used in this study include facilities, services, information, and recreation experience. Respondents rated each statement using a five-point Likert-type scale ranging from "not at all important" to "extremely important" and "not at all satisfied" to "extremely satisfied."

Respondents were also asked to rate their satisfaction with each of the customer satisfaction domains (facilities, services, information, and recreation experience) and their overall satisfaction with their fishing experience at the lake they fish most frequently. Similar to the customer service items described previously, respondents rated their satisfaction with each domain using a five-point scale ranging from "not at all satisfied" to "extremely satisfied." The respondents were allowed to respond "not applicable" if the item or domain did not apply at the lake that they fished most frequently. For overall satisfaction with their fishing experience, anglers were asked to rate their experience on a scale of 1-10, with one being the least and ten being most satisfied.

Table 1. Results of Multiple Regression of Customer Service Items and Satisfaction with Facilities, Services, Information, and Recreation Experience Domains.

Independent Variable	Satisfaction w/ Facilities		Satisfaction w/ Services		Satisfaction w/ Information		Satisfaction w/ Recreation Experience	
	r	Beta	r	Beta	r	Beta	r	Beta
Item 1: Toilet Facilities	.546**	.339***	.568**	.233*	.457**	.180	.209*	.153
Item 2: Staff Knowledge	.346**	.009	.501**	.081	.389**	.090	.244*	.134
Item 3: Type of Fish	.124	.082	.138	.086	.065	.029	.385**	.116
Item 4: Appearance of Area	.483**	.555***	.431**	.163	.325**	.139	.265**	.158
Item 5: Water Safety	.357**	-.380**	.485**	-.005	.577**	.188	.167*	-.257
Item 6: Staff Friendliness	.457**	-.058	.513**	.069	.429**	-.069	.241*	-.101
Item 7: Parking Availability	.277**	-.184*	.299**	-.020	.334**	.031	.061	.017
Item 8: Number of Fish	.093	-.090	.132	-.024	.248**	-.008	.350**	.215
Item 9: Ranger Patrols	.408**	.298**	.535**	.260*	.562**	.256*	.443**	.350**
Item 10: Recreation Opportunities	.383**	.023	.514**	.167	.498**	.099	.192**	-.054
Item 11: Water Quality	.419**	.093	.393**	.022	.363**	-.020	.405**	.251*
Item 12: Roadside Signs	.455**	.217	.432**	.023	.422**	.119	.197*	-.133
R ² Satisfaction w/ four customer service domains	.518***		.443***		.434***		.293***	

***= Significant at .001 **=Significant at .01 *=Significant at .05

Analysis

A factor analysis was used to examine the dimensions of customer satisfaction. One of the most important characteristics of factor analysis is its data reduction capability. Results of the factor analysis revealed inconsistent factor loadings for individual items representing customer service domains. Therefore, no composite indices were created for the independent variables. Multiple regression was used to examine the relationships between individual items (independent variables) and customer service domains (dependent variables) and overall satisfaction with the fishing experience (dependent variable). The study also used multiple regression to determine the relationship between satisfaction with the four domains (independent variables) and overall satisfaction with the fishing experience.

Results

The first step in the analysis was to examine the relationships between the twelve customer service items and the satisfaction measures related to the facilities, service, information, and recreation experience domains (Table 1). A total of five independent variables were found to significantly predict satisfaction with facilities in the first regression equation. The five-predictor variables were satisfaction with cleanliness of toilet facilities, appearance and maintenance of the area, water safety information, parking availability and ranger patrols. The customer service items explained 52% of the variance in overall satisfaction with facilities.

Overall satisfaction with services was the next dependent variable to be examined with the twelve customer service items. A total of 44% of the variance in the dependent variable was explained, with two significant predictor variables (satisfaction with toilet facilities and satisfaction with ranger patrols). While only two of the independent variables were significant predictors in the regression equation, nine out of twelve independent variables were positively and significantly correlated with the dependent variable (satisfaction with services).

The third regression equation explored the relationship between overall satisfaction with information and the twelve customer service items. While satisfaction with ranger patrols was the only significant predictor variable, eleven out of the twelve items were significantly and positively correlated with overall satisfaction with information. A total of 43% of the variance in the dependent variable was explained in this model.

The next step was to run a regression equation for satisfaction with the recreation experience domain and the twelve customer service items. A total of 29% of the variance in the dependent variable was explained, with two significant predictor variables. Satisfaction with ranger patrols was the strongest predictor, followed by water quality. Similar to the previous analysis, all but one of the twelve independent variables were significantly correlated with overall satisfaction with the recreation experience.

For the last phase of this analysis, multiple tests were conducted to examine the relationships between various independent variables and overall satisfaction with the fishing experience. These tests examined the indirect and direct relationships among the independent variables. The first regression equation examined the relationship between the four customer service domains and overall satisfaction with a person's fishing experience. Results revealed three significant predictors of overall fishing satisfaction (Table 2). The strongest predictor was satisfaction with services, followed by satisfaction with information and the recreation experience. These significant independent variables accounted for 19% of the variance in overall satisfaction with the fishing experience.

Table 2. Results of Multiple Regression of Satisfaction with Facilities, Services, Information, and Recreation Experience Domains on Overall Satisfaction with Fishing Experience.

Independent Variable	Overall Satisfaction	
	r	Beta
Satisfaction with Facilities	.308**	.024
Satisfaction with Services	.387**	.567**
Satisfaction with Information	.188*	-.359**
Satisfaction with Recreation Experience	.356**	.194*
<i>R² Overall Satisfaction w/ Fishing Experience</i>	.189***	

*** Significant at .001

** Significant at .01

* Significant at .05

The next regression analysis examined the direct relationship between the twelve customer service items and overall satisfaction with the fishing experience. Satisfaction with the number of fish a person can catch and roadside signs and directions were found to be the two significant predictor variables (Table 3). A total of 33% of the variance was explained by the independent variables.

In an effort to determine the direct and indirect relationships between the variables, a final regression analysis was run with the twelve individual items and four domain satisfaction scores (all independent variables) and overall satisfaction with the fishing experience (dependent variable). The same two customer service items (satisfaction with the number of fish a person can catch and roadside signs and directions) remained significant when the domain satisfaction scores for facilities, services, information, and recreation experience were added to the regression equation (Table 4). Satisfaction with services also contributed significantly to this model. The variance explained by the independent variables was 34%. This finding establishes direct relationships between the two customer service items and overall satisfaction with the fishing experience, as well as a direct effect from the services domain.

Table 3. Results of Multiple Regression of Customer Service Items on Overall Satisfaction with the Fishing Experience.

Independent Variable	Overall Satisfaction	
	r	Beta
Item 1: Toilet Facilities	.219*	.032
Item 2: Staff Knowledge	.101	-.034
Item 3: Type of Fish	.348**	.192
Item 4: Appearance of Area	.269**	.241
Item 5: Water Safety	.118	-.071
Item 6: Staff Friendliness	.147	.125
Item 7: Parking Availability	.021	-.104
Item 8: Number of Fish	.356**	.397***
Item 9: Ranger Patrols	.198*	.023
Item 10: Recreation Opportunities	.138	.193
Item 11: Water Quality	.223**	.017
Item 12: Roadside Signs	-.016	-.338*
R² Overall Satisfaction w/ Fishing Experience	.334***	

*** Significant at .001

** Significant at .01

* Significant at .05

Table 4. Results of Multiple Regression of Individual Customer Service Items and Satisfaction with Facilities, Services, Information, and Recreation Experience Domains on Overall Satisfaction with the Fishing Experience.

Independent Variable	Overall Satisfaction	
	r	beta
Individual Customer Service Items		
Item 1: Toilet Facilities	.219*	-.057
Item 2: Staff Knowledge	.101	-.054
Item 3: Type of Fish	.348**	.157
Item 4: Appearance of Area	.269**	.157
Item 5: Water Safety	.118	-.015
Item 6: Staff Friendliness	.147	.097
Item 7: Parking Availability	.021	-.080
Item 8: Number of Fish	.356**	.408***
Item 9: Ranger Patrols	.198*	-.066
Item 10: Recreation Opportunities	.138	.143
Item 11: Water Quality	.223**	-.004
Item 12: Roadside Signs	-.016	-.345*

Table 4 continued

Domain Satisfaction Scores		
Satisfaction with Facilities	.308**	.070
Satisfaction with Services	.387**	.363*
Satisfaction with Information	.188*	-.124
Satisfaction with Recreation Experience	.356**	.015
R² Overall Satisfaction w/ Fishing Experience	.337***	

*** Significant at .001

** Significant at .01

* Significant at .05

Conclusions

As mentioned before, the individual items representing four customer service domains did not factor load in a logical manner. While somewhat discouraging, this should not be surprising based on the wording of the individual statements. While the items within the various domains were intended to measure a single construct, closer examination of these items suggests they may be tapping different ideas. Thus, it is not surprising that factor analysis did not produce a clean factor structure for inclusion in this study.

The regression models predicting satisfaction within the four customer service domains accounted for 29% to 52% of the variance in domain-level satisfaction. The strongest model was found for the facilities domain, and the weakest for the recreation experience domain. These results seem logical in that the facilities domain is probably the most tangible domain studied and the recreation experience is likely the most nebulous in the minds of the respondents.

Satisfaction with the services, information and the recreation experience domains were all significant predictors of overall satisfaction with the fishing experience. An unusual result of this analysis is the negative Beta value for overall satisfaction with information. It would be expected that as a person's satisfaction with information increased, so too would their overall satisfaction with the fishing experience. This was shown in the bivariate analysis ($r=.188$), which makes the negative Beta value difficult to interpret. Such a result is most likely an anomaly related to the shared variance among the variables included in the model. Both overall satisfaction with services and the recreation experience behaved as expected (positively influence overall satisfaction with the fishing experience) and the direct relationship between the variables was supported.

The examination of individual customer service items revealed direct relationships between these variables and the dependent variable, overall satisfaction with the fishing experience. When the 12 items were examined simultaneously with satisfaction within the four domains of customer service, satisfaction with the number of fish a

person can catch and roadside signs and directions were found to have a direct relationship with overall satisfaction with the fishing experience. As noted above, a negative Beta value implies that as satisfaction with roadside signs and directions increased, anglers' overall satisfaction with their fishing experience decreased. This result does not seem logical and is probably another anomaly resulting from the combination of variables included in the analysis.

Among the domain satisfaction scores, only satisfaction with services showed a direct relationship with overall satisfaction when the individual items were included in the analysis. Table 5 summarizes the direct and indirect relationships found in the study. Taken together, the results suggest that the customer service items exert the most influence on satisfaction within the customer service domains. Disregarding the anomalous path for roadside signs and directions, overall fishing satisfaction was most strongly influenced by satisfaction with the number of fish available and satisfaction with the services domain.

Implications for Further Research

For the satisfaction items and domains, it may be useful to examine other areas such as a natural resources domain or a more developed recreation experience domain. This study could be replicated in a recreation setting where the specific items and domains were tailored to closely match the facilities, services, information, recreation experiences and natural resources of the area. Certainly this approach could prove valuable for further testing and comparing the results to those of this study.

Researchers should continue to refine the measures that were used in this study and explore their relationships. Using a conceptual model of customer service as suggested by Burns et al. (1999b) may be helpful for managers in

providing better visitor experiences in the recreation areas they manage.

Literature Cited

- Burns, R., Graefe, A., Absher, J. & Titre, J. (1999a). Water-based recreationists' attitudes regarding customer satisfaction: Differences between selected market segments. In H. Vogelsong (Ed.), *Proceedings of the 1998 Northeastern Recreation Research Symposium: GTR-NE-255*. (pp. 166-171). Radnor, PA: USDA Forest Service.
- Burns, R., Graefe, A., Absher, J., & Titre, J. (1999b). Attributes and domains: Links to visitor satisfaction at U.S. Army Corps of Engineers reservoirs. Paper presented at the International Symposium on Society and Resource Management, Brisbane, Australia, July 7-10, 1999
- Dillman, D.A. (1978). *Mail and telephone surveys: The total design approach*. New York, NY: John Wiley & Sons.
- Mackay, K.J., & Crompton, J.L. (1990). Measuring the quality of recreation services. *Journal of Park and Recreation Administration*, 8 (3), 47-56.
- Mackay, K.J., & Crompton, J.L. (1988). A conceptual model of consumer evaluation of recreation service quality. *Leisure Studies*, 7, 41-49.
- Parasuraman, A., Zeithaml, V.A., & Berry, L. (1985). A conceptual model of service quality and its implications for further research. *Journal of Marketing*, 49, 41-50.
- Parasuraman, A., Zeithaml, V.A., & Berry, L. (1988). SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64, 12-40.
- Wagar, J.A. (1966). Quality in outdoor recreation. *Trends in Parks and Recreation*, 3 (3), 9-12

Table 5 Summary of Direct and Indirect Predictors of Overall Satisfaction with Fishing Experience

Customer Service Items	Satisfaction With ¹				
	Facilities	Service ²	Information	Recreation Domains	Overall Satisfaction
Type of fish					
Toilet facilities	X	X			
Water safety					
Parking availability	X				
Number of fish					X
Appearance of area	X				
Staff friendliness					
Ranger patrols	X	X	X	X	
Water quality	X			X	
Staff knowledge					
Signs and directions					X
Recreation information					

¹X indicates a direct relationship between customer service item and satisfaction

² Satisfaction with services showed a direct relationship with overall satisfaction when the individual items were included in the analysis